



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,880	01/30/2004	Yoshiaki Tanaka	0102/0236	4105
21395	7590	03/20/2008	EXAMINER	
LOUIS WOO LAW OFFICE OF LOUIS WOO 717 NORTH FAYETTE STREET ALEXANDRIA, VA 22314			FLETCHER, JAMES A	
			ART UNIT	PAPER NUMBER
			2621	
			MAIL DATE	DELIVERY MODE
			03/20/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/766,880	Applicant(s) TANAKA ET AL.	
	Examiner JAMES A. FLETCHER	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 40-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 40-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>01/04 12/06 02/07 09/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 40-43 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims of U.S. Patent No. 7,254,103. Although the conflicting claims are not identical, they are not patentably distinct from each other because the patent claims recite every limitation of the instant application, but add recitations regarding management data and quantization word length, and are therefore narrower in scope than the claims of the instant application.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Art Unit: 2621

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim40 is rejected under 35 U.S.C. 101 because it is drawn to non-functional data on a recording medium.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 40-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al (6,636,474), and further in view of Heo (6,222,983).

Regarding claim 40, Tanaka et al disclose a digital signal recording medium having an area storing an audio title set (ATS), the audio title set (ATS) including data representing a digital audio signal resulting from steps including

- quantizing a first original audio signal at a first sampling frequency (Col 1, lines 56-58 “an analog-to-digital conversion of a first-channel analog audio signal at a first sampling frequency”),
- quantizing a second original audio signal into a quantization-resultant audio signal at a second sampling frequency (Col 1, lines 60-62 “an analog-to-digital conversion of a second-channel analog audio signal at a second sampling frequency”), and
- the first original audio signal being in a first channel group having multiple channels, the second original audio signal being in a second channel group having multiple channels (Col 20, lines 37-40 “A set of the bits b103, b102, b101, and b100 represents a sampling frequency fs_1 of the channel group ‘1’. A set of the bits b99, b98, b97, and b96 represents a sampling frequency fs_2 of the channel group ‘2’”), the first sampling frequency being assigned to each of the channels in the first channel group (Col 11, lines 5-7 “A set of the bits b53 and b52 in the ATS menu audio stream attribute ATSM-AST-ATR represents a sampling frequency ‘fs’ related to each of two stereophonic channels”), the second sampling frequency being assigned to each of the channels in the second channel group (Col 18, lines 6-11 “it is preferable that a sampling frequency ‘fs’ and a quantization bit number for channels except front channels are equal to standard values while a sampling frequency ‘fs’ and a quantization bit number for the front channels are different from the standard values”);

- the audio title set (ATS) including data representing the first sampling frequency and the second sampling frequency (Col 20, lines 37-40 “A set of the bits b103, b102, b101, and b100 represents a sampling frequency fs1 of the channel group ‘1’. A set of the bits b99, b98, b97, and b96 represents a sampling frequency fs2 of the channel group ‘2’”), and channel assignment information for identifying the channels in the first channel group and the channels in the second channel group (Col 20, lines 42-44 “A set of the bits b92, b91, b90, b89, and b88 represents channel assignment”).

Regarding claim 41, Tanaka discloses a signal encoding apparatus comprising:

- means for generating information Col 1, lines 36-37 “a digital signal recording”; and
- means for formatting the information into a data structure;
- wherein the data structure has an area containing an audio title set, the audio title set including data representing a digital audio signal resulting from steps including
 - quantizing a first original audio signal at a first sampling frequency (Col 1, lines 56-58 “an analog-to-digital conversion of a first-channel analog audio signal at a first sampling frequency”),
 - quantizing a second original audio signal into a quantization-resultant audio signal at a second sampling frequency (Col 1, lines 60-62 “an analog-to-digital conversion of a second-channel analog audio signal at a second sampling frequency”), and

- subjecting the quantization-resultant audio signal to a bit shift, the first original audio signal being in a first channel group having multiple channels (Col 1, lines 49-50 “the first-channel digital audio signal comprises a front-channel digital audio signal”), the second original audio signal being in a second channel group having multiple channels (Col 1, lines 50-51 “the second-channel digital audio signal comprises a rear-channel digital audio signal”), the first sampling frequency being assigned to each of the channels in the first channel group, the second sampling frequency being assigned to each of the channels in the second channel group (Col 20, lines 37-40 “A set of the bits b103, b102, b101, and b100 represents a sampling frequency fs1 of the channel group ‘1’. A set of the bits b99, b98, b97, and b96 represents a sampling frequency fs2 of the channel group ‘2’”);
- the audio title set including data representing the first sampling frequency and the second sampling frequency (Col 20, lines 37-40 “A set of the bits b103, b102, b101, and b100 represents a sampling frequency fs1 of the channel group ‘1’. A set of the bits b99, b98, b97, and b96 represents a sampling frequency fs2 of the channel group ‘2’”), and channel assignment information for identifying the channels in the first channel group and the channels in the second channel group (Col 20, lines 42-44 “A set of the bits b92, b91, b90, b89, and b88 represents channel assignment”).

Regarding claim 42, Tanaka et al disclose an apparatus for decoding the digital audio signal recorded on the digital signal recording medium of claim 40, the audio signal being in the first channel group and the second channel group, the apparatus comprising:

- means for generating the data representing the first sampling frequency and the second sampling frequency (Col 20, lines 37-40 “A set of the bits b103, b102, b101, and b100 represents a sampling frequency fs1 of the channel group ‘1’. A set of the bits b99, b98, b97, and b96 represents a sampling frequency fs2 of the channel group ‘2’”), and the channel assignment information for identifying the channels in the first channel group and the channels in the second channel group (Col 20, lines 42-44 “A set of the bits b92, b91, b90, b89, and b88 represents channel assignment”); and
- means for decoding the digital audio signal in the first channel group and the second channel group in response to the first sampling frequency, the second sampling frequency, and the channel assignment information (Col 4, lines 34-35 “an audio-signal decoding apparatus”).

Regarding claim 43, Tanaka et al disclose a player for reproducing audio contents from the digital signal recording medium of claim 40 which stores the audio signal in the first channel group and the second channel group, the player comprising:

- means for generating the data representing the first sampling frequency and the second sampling frequency (Col 20, lines 37-40 “A set of the bits b103, b102, b101, and b100 represents a sampling frequency fs1 of the channel

- group '1'. A set of the bits b99, b98, b97, and b96 represents a sampling frequency fs2 of the channel group '2'), and the channel assignment information for identifying the channels in the first channel group and the channels in the second channel group (Col 20, lines 42-44 "A set of the bits b92, b91, b90, b89, and b88 represents channel assignment");
- means for decoding the digital audio signal in the first channel group and the second channel group in response to the first sampling frequency, the second sampling frequency, and the channel assignment information (Col 4, lines 34-35 "an audio-signal decoding apparatus"); and
 - means for implementing digital-to-analog conversion of the decoding-resultant audio signal to recover a corresponding analog audio signal (Col 4, lines 34-35 "an audio-signal decoding apparatus").

Further regarding claims 40-43, Tanaka et al are silent regarding the application, quantity, and data representing the quantity of a bit shift.

Yamaguchi et al teach the use of a bit shift of a specified quantity (Col 12, line 1 "a register 110 with a shifting function"), which provides the user with arithmetic manipulation of the data, and the use of data determining the quantity of a bit shift (Col 13, lines 1-3 "Control data which is read out every counting operation of the sequence counter 116 from the control memory 118 is supplied to a control output register 120"), allowing the amount of arithmetic manipulation to be known.

As taught by Yamaguchi et al, bit shifts are well known to those of skill in the art, and serve useful functions to those who need to manipulate data.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Tanaka et al in order to include bit shift application, quantity, and data representing the quantity of a bit shift in the encoding, recording, and decoding processes of a digital audio recorder.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES A. FLETCHER whose telephone number is (571)272-7377. The examiner can normally be reached on 7:45-5:45 M-Th, first Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (571) 272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JAF

Application/Control Number: 10/766,880

Page 10

Art Unit: 2621

16 March 2008

/ROBERT CHEVALIER/

Primary Examiner, Art Unit 2621

March 17, 2008.